

## **Remark**

Applicants respectfully request reconsideration of this application as amended.

No claims have been amended. No claims have been cancelled. Therefore, claims 1-22 remain present for examination.

## **35 U.S.C. §103 Rejection**

### *Shattil and Kaiser*

The Examiner has rejected claims 1-9 and 11-22 under 35 U.S.C. §103 (a) as being unpatentable over Shattil, U.S. Patent Application Publication 2002/0034191 (“Shattil”), in view of Stefan Kaiser, “Spatial Transmit Diversity Techniques for Broadband OFDM Systems (2000 IEEE)”, (“Kaiser”).

The Examiner has failed to present any basis under 35 U.S.C. §102 for citing these two references as prior art. While §103(a) is presented for obviousness. §103(a) requires that each reference qualify under some subsection of §102. Applicants respectfully request that the basis under §102 be provided in the next action.

### **A. Kaiser is Not Prior Art**

As to Kaiser, published papers are often cited under §102(b) (published more than one year before the filing date). Applicants believe that Kaiser was published at the IEEE Global Telecommunications Conference (Globecom) 2000 held November 27 to December 1, 2000. This is not more than one year before the filing date of the present application. Accordingly, Applicants respectfully submit that Kaiser is not prior art.

### **B. Kaiser does Not Render the Claims Obvious**

In addition, the cited references do not teach or suggest the limitations of the claims.

Claim 1 cites, for example, "each of the sub-carriers is to be transmitted over an array of two or more antennas." Against this recitation, the Examiner cites Kaiser section II.A. However, Kaiser states, "the subcarriers used for OFDM are clustered in M smaller blocks and each block is transmitted over a separate antenna." There is nothing to suggest that a block is transmitted over more than one antenna.

Claim 1 further recites, "wherein each of the sub-carriers is modified by a set of complex weights." Again, the Examiner cites section II.A. of Kaiser. Kaiser states that "each OFDM block processes  $N_c/M$  complex-valued data symbols." However, there is no statement that these complex-valued data symbols are then weighted.

Claim 1 further recites, "the set of complex weights includes different weights for each of the two or more antennas of the array." Again, the Examiner cites section II.A. of Kaiser. However, there is no mention in section II. A of complex weights of any kind, not to mention complex weights that are different for different antennas.

It would appear that in this section, Kaiser is teaching that conventional subcarriers for OFDM are grouped into blocks and that each group is sent using a different antenna. Kaiser has nothing to say about any additional parameters being applied to the blocks. This is similar to a conventional spatial transmit diversity approach in which the same signal is sent from two different, spatially separated, antennas. This is a very different approach from that recited in the claims in which each sub-carrier is transmitted over an array of two or more antennas.

Absent anything in the references regarding the limitations discussed above, Applicants respectfully submit that Claim 1 is allowable. Claims 7, 20, and 22 contain similar recitations and are believed to be allowable therefore. The remaining claims

depend from one of Claims 1, 7, or 20 and are believed to be allowable therefore, *inter alia.*

### **Conclusion**

Applicants respectfully submit that the rejections have been overcome by the amendment and remark, and that the claims as amended are now in condition for allowance. Accordingly, Applicants respectfully request the rejections be withdrawn and the claims as amended be allowed.

### **Invitation for a Telephone Interview**

The Examiner is requested to call the undersigned at (303) 740-1980 if there remains any issue with allowance of the case.

### **Request for an Extension of Time**

Applicants respectfully petition for an extension of time to respond to the outstanding Office Action pursuant to 37 C.F.R. § 1.136(a) should one be necessary. Please charge our Deposit Account No. 02-2666 to cover the necessary fee under 37 C.F.R. § 1.17(a) for such an extension.

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,  
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